

### REMARKS

The present application includes 21 claims. Claims 1-21 are now pending. Claim 17 is objected to, and claims 1-21 are rejected. By this response claims 11, 12, and 17 have been amended.

Claims 11 and 12 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended claims 11 and 12 and believes the 35 U.S.C. 112, second paragraph rejection has been overcome.

Claims 1-17 were rejected under 35 U.S.C. 102(b) as being anticipated by Gatherer (U.S. No. 5,461,640).

Claims 18-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gatherer.

With regard to the anticipation rejections, MPEP 2131 states that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 2 USPQ2d 1051, 1053 (Fed.Cir. 1987). MPEP 2131 also states that “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Similarly, with regard to an obviousness rejection, MPEP 2142 states that in order for a *prima facie* case of obviousness to be established, three basic criteria must be met, one of which is that the reference or combination of references must teach or suggest all the claim limitations. Further, MPEP 2143.01 states that “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination”, and that “although a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so’” (citing *In re Mills*, 916 F. 2d 680, 16 USPQ 2d 1430 (Fed Cir. 1990)). Moreover, MPEP 2143.01 also states that the level of ordinary skill in the art cannot be relied upon to provide the suggestion . . . ,” citing *Al-Site Corp. v. VSI Int’l Inc.*, 174 F. 3d 1308, 50 USPQ 2d. 1161 (Fed Cir. 1999).

Regarding independent claim 1 and its dependent claims (i.e., claims 2-6), claim 1 recites “[a] modem comprising [a] memory adapted to store a plurality of PRBS generator definitions;

and [a] circuitry adapted to determine an operating environment of the modem, and to select one of the plurality of PRBS generator definitions based on the operating environment.”

Additionally, claim 5 recites “the operating environment of the modem comprises at least one channel condition.”

It is respectfully submitted that the cited prior art, Gatherer, does not teach the claimed invention of claim 1. More specifically, Gatherer does not teach a circuitry adapted to determine an operating environment. Gatherer also does not teach selecting one of a plurality of PRBS generator definitions based on the determination of the operating environment. Instead, Gatherer discloses PRBS generators that generate a *predetermined* training sequence (column 7, lines 54-56). Also, regarding claim 5, Gatherer does not teach determining an operating environment comprising at least one channel condition. Instead, Gatherer simply teaches a channel (Fig. 3, element 18 and column 7, lines 54-65).

Similarly, regarding independent claim 7 and its dependent claims (i.e., claims 8-17), claim 7 recites “[a] communication system comprising a communication node having circuitry adapted to determine an operating environment of the communication node; and a management information node adapted to control the communication node based on the operating environment and a plurality of stored PRBS generator definitions.” Additionally, claim 11 recites “the operating environment of the communication node comprises at least one channel condition.”

It is respectfully submitted that the cited prior art, Gatherer, does not teach the claimed invention of claim 7. More specifically, Gatherer does not teach a circuitry adapted to determine an operating environment. Gatherer also does not teach controlling the communication node based on the operating environment and a plurality of PRBS generator definitions. Instead, Gatherer discloses PRBS generators that generate a *predetermined* training sequence (column 7, lines 54-56). Also, regarding claim 11, Gatherer does not teach determining an operating environment comprising at least one channel condition. Instead, Gatherer simply teaches a channel (Fig. 3, element 18 and column 7, lines 54-65).

Regarding independent claim 18 and its dependent claims (i.e., claims 19-20), claim 18 recites “[a] method of communication comprising determining an operating environment of a communication node; and selecting, based on the measured environment, a PRBS generator from a plurality of stored PRBS generators.”

Applicant respectfully submits, contrary to Examiner's inference, that the generators described by Gatherer do not produce a plurality of PRBS generator definitions, or that it is obvious that one can have a plurality of generators that each contains a singular or plurality of definitions, and based on the chosen definition, to select a corresponding PRBS generator. Mainly, Gatherer teaches PRBS generators that generate a *predetermined* training sequence for the communication system described in Gatherer (column 7, lines 54-56). Specifically, one PRBS generator generates the predetermined training sequence in the modulator, and the other PRBS generator generates the same training sequence in the equalizer initialization means (column 7, lines 54-67 and column 8, lines 1-2). Therefore, there is no reason to modify the PRBS generators as defined by Gatherer to produce a plurality of PRBS generator definitions and to select one of the PRBS generators, since the training sequences are predetermined.

Similarly, regarding independent claim 21, which recites "[a] method of communication comprising determining a number of carriers to be used by a communication node; comparing the number of carriers determined to a threshold; and selecting a first PRBS generator if the number of carriers determined is less than the threshold, and a second PRBS generator if the number of carriers determined is greater than the threshold."

Applicant respectfully submits, contrary to the Examiner's inference, it would not have been obvious to a person of ordinary skill in the art to define the number of carriers within a channel as possible PRBS generator definitions and set the criterion of selecting the PRBS generator based on the number of carriers compared to a threshold number of carriers. Mainly, Gatherer teaches PRBS generators that generate a *predetermined* training sequence for the communication system described in Gatherer (column 7, lines 54-56). There is simply no motivation or suggestion in Gatherer to modify the Gatherer configuration to use a plurality of PRBS generator definitions or to provide any type of selection.

Based on at least the foregoing, applicant believes that claims 1-21 are in condition for allowance. Should the Examiner disagree or have any questions regarding this submission, applicant invites the Examiner to telephone the undersigned at (312) 775-8000.

A Notice of Allowability is courteously solicited.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

Respectfully submitted,

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